

A New Subspecies of the Dwarf Snake *Calamaria lowi ingermarxi* ssp. nov. (Serpentes, Colubridae) from Southern Vietnam

ILYA S. DAREVSKY¹ AND NIKOLAI L. ORLOV¹

¹Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia

Abstract. -The Indo-Malay species of the dwarf snake *Calamaria lowi* Boulenger was discovered for the first time in Vietnam, where it is represented by the subspecies *Calamaria lowi ingermarxi* spp. nov. Some other examples pointing to the historical links between the herpetofaunas of Vietnam and the insular regions of Southeast Asia are given. A key to the subspecies *Calamaria lowi* and to other *Calamaria* species from Vietnam is given.

Key words: Reptilia, Serpentes, Colubridae, *Calamaria*, Vietnam, biogeography, distribution, taxonomy.

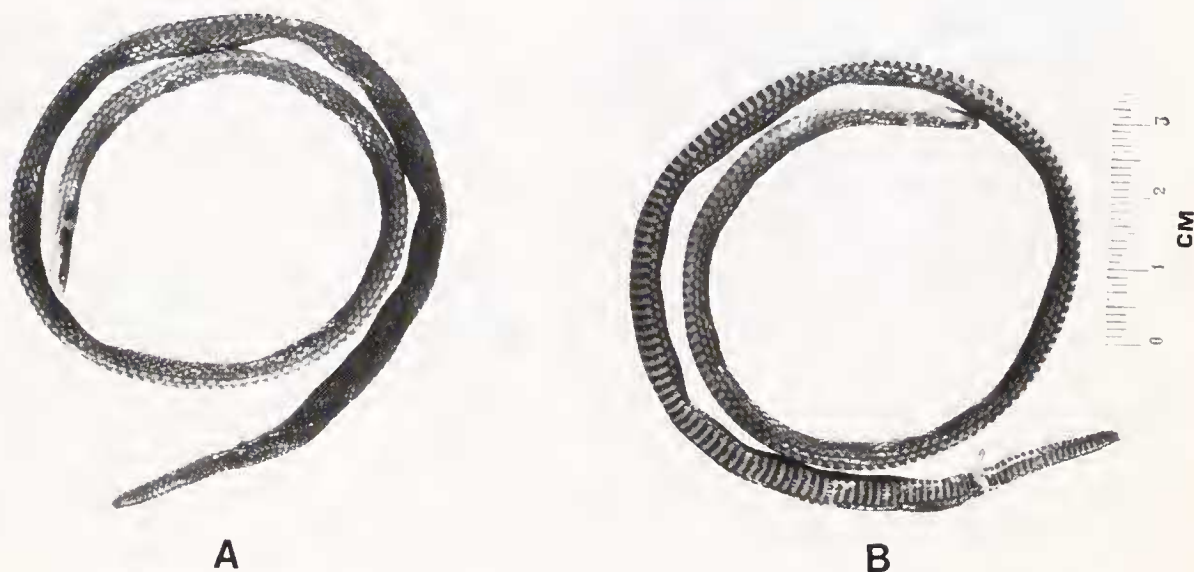


FIG. 1. A- Dorsal and B- lateral view of ZIN 20006, the holotype of *Calamaria lowi ingermarxi*.

Introduction

According to the last revision of the genus of oriental colubrid dwarf snakes *Calamaria* H. Boie, 1827, the widely distributed species *Calamaria lowi* Boulenger, 1877 forms three well distinct subspecies. Of them, the nominative subspecies *C. l. lowi* Boulenger occurs on Kalimantan Island, Thailand, *C. l. wermuthi* Marx and Inger is known from a single specimen from the western part of Java Island, Indonesia, and *C. l. gimletti* Boulenger is distributed on the Malay Peninsular mainland and the two adjoining

small islands of Aor and Riouw (Inger and Marx, 1965). The northern most location of this subspecies on the Malay Peninsula is Kalantan where the holotype comes from.

In 1982, during field herpetological work in Vietnam, a specimen of *C. lowi* was taken by the authors for the first time in Indochina, more than 1000 km to the northeast of the known mainland distribution of the species. A detailed study of this specimen showed that it belongs to a subspecies new to science. Its description is given below.



FIG. 2. Dorsal and lateral view of the head of ZIN 20006, the holotype of *Calamaria lowi ingermarxi*.

Calamaria lowi ingermarxi spp. nov.
Figs. 1, 2, 3, and 4.

Holotype.—Zoological Institute, Russian Academy of Sciences, St. Petersburg (Leningrad), ZIN 20006; Buoenloy, Gilai-Contum Province, Vietnam; 750 m; I. S. Darevsky; 18 June 1982; male (Fig. 1).

Diagnosis.—Differs from all other subspecies of *Calamaria lowi* in the following combination of characters; maxillary teeth modified; second and third supralabials enter orbit; mental touching anterior chin shields; ventrals uniformly dark gray colored with light posterior edges; 205 ventrals; 23 subcaudals.

Description of holotype.—Rostral wider than high, portion visible from above more than half length of prefrontal suture;

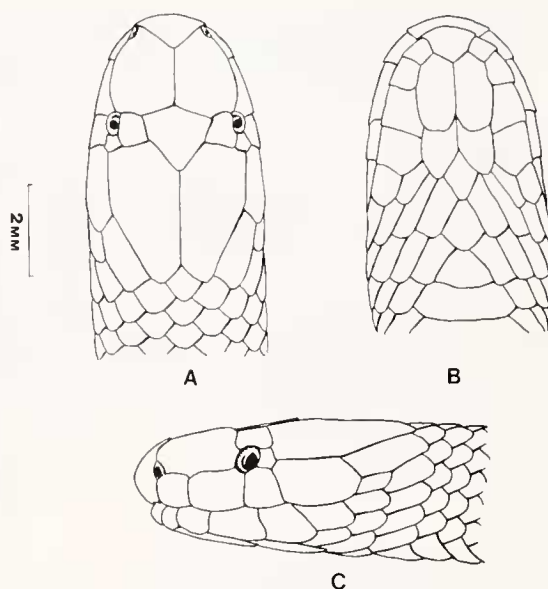


FIG. 3. Head: A- dorsal view; B- ventral view; C- lateral view; ZIN 20006, the holotype of *Calamaria lowi ingermarxi*.

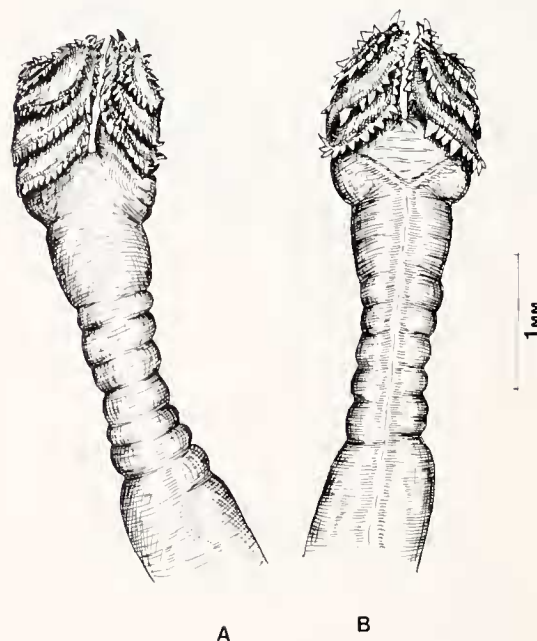


FIG. 4. Left hemipenis of *Calamaria lowi ingermarxi*. A- lateral; B- dorsal view.

prefrontal longer than frontal, touching first two supralabials; frontal 2 times width of supraocular, length about two thirds that of the parietal; paraparietal surrounded by 6 shields and scales; nasal smaller than

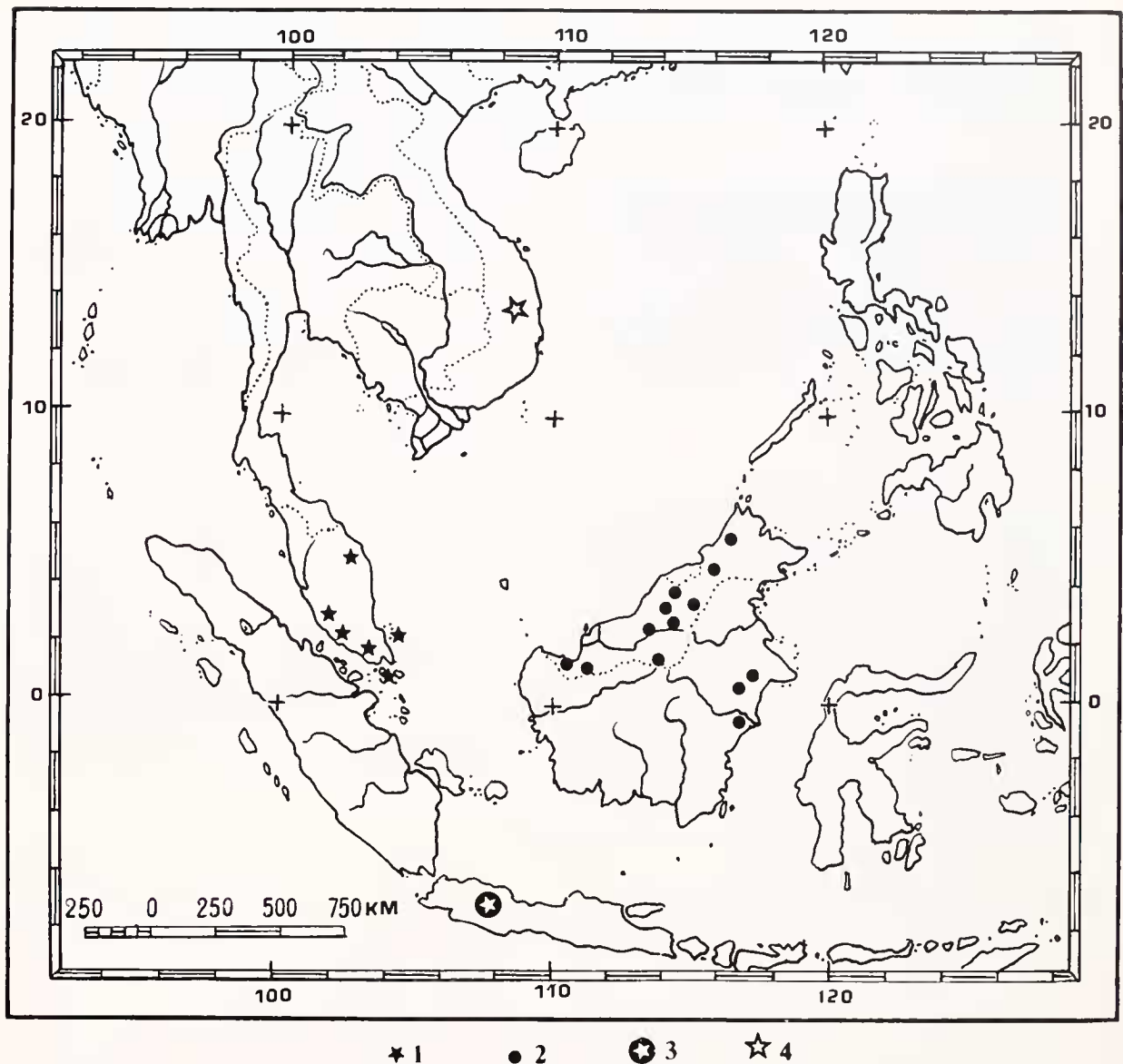


FIG. 5. Map of the main known localities of *Calamaria lowi* subspecies: 1- *C. l. lowi*; 2- *C. l. gimletti*; 3- *C. l. wermuthi* (after Inger and Marx, 1965); 4- *C. l. ingermarxi*.

postocular; no preocular; postocular as deep as eye; 4 supraoculars, second and third entering orbit, fourth longest, first not longer than third; mental triangular, touching first pair of chin shields; both pair of chin shields meeting in mid-line; 3 gulars in midline between posterior chin shields and first ventral (Figs. 2 and 3). Tail short, not tapering, tip blunt; dorsal scales reduce to 4 rows on tail opposite first to fifth subcaudal anterior to terminal scute. Eight modified maxillary teeth. Thirteen scale

rows, 205 ventrals, 23 subcaudals; SVL 296 mm; TL 22 mm; ratio of tail to total length is 0.074.

The hemipenis is 4 mm in length, forked on the top, calyces papillate (Fig. 4). Body brown gray-bluish, immaculate; light spots on each side of neck covering 4 scales; lower halves of supralabials yellowish. Ventrals and subcaudals uniformly dark gray except for light borders at the extreme posterior edge of the ventrals (Fig. 1).

Distribution.—Known only from the type locality in central Vietnam (Fig. 5). Probably occurs widely within the Pleiku Plateau in the central part of Gilai-Contum Province in central Vietnam.

Etymology.—This subspecies is named for Robert F. Inger and Hymen Marx who have made a great contribution to the study of the herpetofauna of Southeast Asia. Among other works, they are the authors of an important summary on the taxonomy and evolution of the snake genus *Calamaria*.

Discussion

This specimen of *Calamaria lowi* from Gilai-Contum Province in central Vietnam was found a considerable distance from the main distribution of this species, which is the Malay Peninsula in Malaysia and the islands of Kalimantan and Java, in Thailand and Indonesia respectively. However, *C. lowi* is not the only species suggesting some historical link between the herpetological faunas of Vietnam and the

insular regions of Southeast Asia. For example, in central Vietnam at the type locality of *C. l. ingermarxi* we collected a specimen of the skink, *Sphenomorphus stellatus* (Boulenger). This species is also found in Thailand on Kalimantan Island (Bacon, 1967). This region of Vietnam is also the type locality of the glass lizard *Ophisaurus sokolovi* Darevsky and Sang (1983). This species is closely related to *Ophisaurus buetticoferi* Mertens from Kalimantan Island, Thailand. In the same area a specimen of *Calamaria septentrionalis* was collected. This species is widely distributed in Vietnam and also on the Malay Peninsula.

The present day disjunction in the ranges of these and some other species of reptiles and amphibians are apparently of secondary formation, as a result of the changes occurring in the paleogeographic conditions in this region. In particular, the sinking of the water level during the Pleistocene, which led to the separation of both Kalimantan and Java from the mainland (Beaufort, 1951).

Key to the species of *Calamaria* from Vietnam.

- 1 (6). Preocular present.
- 2 (3). Ventrals yellow, immaculate*C. buchi* Inger et Marx.
- 3 (2). Ventrals yellow, with dark lateral tips.
- 4 (5). Tail as thick as body, not tapering, end broadly rounded
.....*C. septentrionalis* Boulenger.
- 5 (4). Tail not as thick as body, tapered, pointed*C. pavimentata* Dumeril et Bibron.
- 6 (1). Preocular absent*C. lowi* Boulenger.

Key to the subspecies of *Calamaria lowi*.

- 1 (2). Mental not touching anterior chin shields*C. l. gimletti* Boulenger.
- 2 (1). Mental touching anterior chin shields.
- 3 (4). Ventrals uniformly cream colored*C. l. wermuthi* Inger et Marx.
- 4 (3). Ventrals colored otherwise.
- 5 (6). Anterior ventrals cream, posterior ventrals almost uniformly dark brown; or ventrals yellow with large, irregular brown squares*C. l. lowi* Boulenger.
- 6 (5). Ventrals all uniformly dark gray with light posterior borders
.....*C. l. ingermarxi* ssp. n.

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Literature Cited

- BACON, J. P. 1967. Systematic status of three scincid lizards (Genus *Sphenomorphus*) from Borneo. Fieldiana, Zoology 51(4):63-76.
- BEAUFORT, L. F. 1951. Zoogeography of the land and island waters. Sidgwick and Jackson, Ltd., London. 208 pp.
- DAREVSKY, I. S., AND N. V. SANG. 1983. New and little known lizards species from Vietnam. Zoologicheski Zhurnal 62:1827-1837. (In Russian).
- INGER, R. F., AND H. MARX. 1965. The systematics and evolution of the oriental colubrid snakes of the genus *Calamaria*. Fieldiana, Zoology 49:3-303.